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ABSTRACT

Statistical data were examined to see the number of library volumes in four types of colleges as defined by the Carnegie Commission. These were comprehensive universities and colleges I and II and liberal arts colleges I and II. Statistically significant differences were found between liberal arts colleges I and II, but this was not so for comprehensive universities and colleges I and II. However, when sub-groupings based on enrollments were devised, significant differences did appear. A table of statistical data is included, and two methods for counting microform volumes are explained. (LS)

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ACRL Ad Hoc Committee to Revise the 1959 Standards for College Libraries

Working Paper

POSSIBLE MODEL BASED ON THE CARNEGIE COMMISSION GROUPINGS

by

David L. Perkins

Mr. Pirie's working paper, TYPOLOGY OF INSTITUTIONS OF HIGHER EDUCATION, describes several grouping schemes, of which the Carnegie Commission scheme seems to consider the largest number of factors in defining viable groupings of institutions. The Commission uses type of program, number of programs and size to differentiate the Liberal Arts groups from the Comprehensive Universities and College groups. Below the Commission's four types of concern to us are listed with the criteria that define them; the criteria bear repetition because of their complexity.

COMPREHENSIVE UNIVERSITIES AND COLLEGES I

a) Liberal arts program

b) Other programs

c) Masters degrees usually offered

d) Limited doctoral programs if any

e) two or more professional or occupational programs

f) more than 2,000 enrollment (1970)

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COMPREHENSIVE UNIVERSITIES AND COLLEGES II

a) Liberal arts program

b) one or more professional or occupational programs

c) If private had more than 1,500 enrolled (1970)

d) If public had more than 1,000 enrolled (1970)

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LIBERAL ARTS I

a) Liberal Arts program

b) Score of 5 on Astin's Selectivity Index or

c) One of 200 leading baccalaureate-granting institutions in terms of number of graduates receiving Ph.D.s at 40 leading doctoral-granting institutions from 1920 to 1966.

LIBERAL ARTS II

a) All other Liberal Arts colleges

We assume that the above factors are an expression of the educational objectives of their institutions, and further assume that the college library will reflect the educational objectives of its parent institution. Of the several measurable attributes which express this relationship we have chosen library size in volumes as a convenient measure to analyze statistically.* If the Carnegie Commission groupings are applicable for differentiation of types of libraries, the mean volume holdings of each group should differ significantly from the mean volume holdings of all college libraries. It should be emphasized that volume holdings were used as a means of testing the groupings, and that some other suitable measure such as a measure of facilities or staffing could have been used had it been as readily available.

The Carnegie Commission groupings Liberal Arts I and Liberal Arts II show statistically significant differences in library size; the 1971

* The primary tools of statistical analysis used here were variability measures, the F test and the T test. Our results were not sampled but include all cases on which data were available. A methodological description of this statistical treatment is available upon request from the author at South Library, California State University, Northridge, Northridge, California 91324.

U. S. Office of Education Library Statistics of Colleges and Universities; Data for Individual Institutions yields a mean volume count of 169,000 for the Liberal Arts I libraries and 66,000 for the Liberal Arts II group. However, no statistically significant difference in library size was found between the Comprehensive Universities and Colleges I and II groups. Since Comprehensive Universities and Colleges I and II have such a wide spread of student enrollment (from a low of 1,000 students to a high of over 33,000), it was possible to develop sub-groupings based on student enrollment within the Comprehensive Universities and Colleges I and II classes that do show statistically significant differences in library size; these categories are shown in Table I.

Table I shows a clear relationship between enrollment and library size in volumes for the sub-categories of Comprehensive Universities and Colleges I and II. As student enrollment increases within these classes so does library size in volumes. The differences between the sub-categories based on enrollment are statistically significant at the .001 confidence level. The standard deviations displayed for the ten groups in Table I show the dispersion of library sizes in volumes around the means of the various groups. The groups showing the largest standard deviations are the Liberal Arts I and the Comprehensive Universities and Colleges I groups with more than 20,001 enrollment. This result is not surprising considering the goal emphasis of the Liberal Arts I institutions and the large size range (20,001 to 33,632) for the 20,001 plus Comprehensive Universities and Colleges I class. Also clearly demonstrated is the difference in library resources between the Liberal Arts I and II classes. The goals of the Liberal Arts I colleges emphasize selectivity in accepting

applicants and good performance of their graduates in graduate schools and this is reflected by relatively strong library resources. A comparison of the Liberal Arts I list with the Cass and Birnbaum selectivity list shows 87% of the Liberal Arts I Colleges appeared on the Cass and Birnbaum list, independently confirming the selectivity of the Liberal Arts I colleges.

TABLE I

TENTATIVE GROUPINGS OF COMPREHENSIVE UNIVERSITIES AND COLLEGES I & II BASED ON ENROLLMENT; MEAN LIBRARY SIZE AND STANDARD DEVIATION IN VOLUMES FOR COMPREHENSIVE UNIVERSITIES AND COLLEGES AND FOR LIBERAL ARTS COLLEGES:

		ENROLLMENT	MEAN LIBRARY SIZE IN VOLUMES	STANDARD DEVIATION
Comprehensive Universities and Colleges	I	20,001+	472,000*	258,000
	I	15,001-20,000	334,000	73,000
	I	10,001-15,000	277,000	93,000
	I	5,501-10,000	220,000	89,000
	I	2,001-5,500	138,000	79,000
	II	10,001+	195,000	48,000
	II	5,501-10,000	132,000	52,000
	II	1,000- 5,500	104,000	58,000
Liberal Arts Colleges	I	enrollment ranges from 101 to 3,772 mean=1,273	169,000	104,000**
	II	enrollment ranges from 53 to 6,730 mean=872	66,000	35,000**

* The data shown here were derived from the 1971 edition of the U.S. Office of Education's Library Statistics of Colleges and Universities; Institutional Data.

** These standard deviations are based on data derived from the 1969 edition of the work cited above. They may be slightly low due to the increase in mean library size in volumes evidenced by the two groups from 1969 to 1971.

MICROFORM MATERIALS

The 1959 ALA Standards for College Libraries did not allow for inclusion of microform materials in assessing college library adequacy. The increased use and availability of these materials during the past decade forces us to consider an inclusion of microform materials in any count of library "volumes". A recent standards compilation, (New York State. The State Education Department. Report of the Advisory Committee on Planning for the Academic Libraries of New York State, 1973, "Guidelines for Assessing the Adequacy of Academic Libraries in New York State," pp. 17-31) counted microform as "volumes" in the following manner:

> "Volume" rather than "title" is recommended as the basic counting "unit of library resources", inasmuch as library statistical accounts are usually kept in terms of "volumes". One "unit of library resources" is:
>
> a. One volume: A physical unit of any printed, typewritten, handwritten, mimeographed, or processed work containing in one binding or portfolio, hardbound or paperbound, which has been cataloged, classified, and/or made ready for use.
> b. One reel of microfilm
> c. Eight microcards
> d. Eight sheets of microfiche
> e. Four sheets of microprint
> f. One-seventh sheet of ultrafiche

This approach allows the inclusion of microform material in a library's "volume" count. Its numerous categories are perhaps too specific for the purpose of drawing national standards, and are not consistent with the

U. S. Office of Education statistics, which counts reels of microform but lumps all other microtext materials together. (U.S. Office of Education Library Statistics of Colleges and Universities: Data for Individual Institutions, 1971). One way of counting microforms is outlined below:

> "Volume" rather than "title" is recommended as the basic counting "unit of library resources", inasmuch as library statistical accounts are usually kept in terms of "volumes". One "unit of library resources" is:
>
> a. One volume: A physical unit of any printed, typewritten, handwritten, mimeographed, or processed work containing in one binding or portfolio, hardbound or paperbound, which has been cataloged, classified, and/or made ready for use.
> b. One reel of microfilm
> c. All other microtext material.
>
> (five pieces equal one volume)

Counting microform in a manner consistent with the U.S. Office of Education statistics allows use of their figures to determine means for classes including microform materials. The division by five for microcards, microfiche, microprint, and ultrafiche is a compromise figure designed to approximate the volume values for a collection that holds some of each type of microform.

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